

IN THE SPECIFICATION

Please replace the paragraph that begins on page 7 at line 23 and ends on page 8 at line 11 with the following amended paragraph:

FIG. 4 is a flowchart of a process followed in execution of an example probe-cache instruction, with control flow depending on a cache-miss condition. The probe-cache instruction checks the cache for the specified data and conditionally changes program control flow based on a cache-miss condition without loading any data into the processor or cache memory. At step 252, the ~~load~~ probe-cache instruction causes the cache memory to be checked for the referenced data. If the data are present, decision step 254 directs the process to step 256 where program execution continues with the instruction that follows the probe-cache instruction. If the referenced data are not in the cache memory, at step 258 program control is transferred to the target address specified by the probe-cache instruction. If the probe-cache instruction is in combination with a skip or simple branch instruction, execution may or may not return to the branch point, depending on the program logic. If, on the other hand, the probe-cache instruction is in combination with a branch to a subroutine, then control would be returned to the branch point upon execution of a subsequent “return from subroutine” instruction.